

CH. 7 REVIEW

1. $\underline{-5x^2} - \underline{\underline{-5x}} - \underline{2x^2} - \underline{\underline{-4x}} - \underline{\underline{-3}} + \underline{\underline{2}}$

$-7x^2 - 9x - 1$

2.

TIME (L_1)	0	1	2	3	4	5	6
POPULATION	4.33	3.12	2.73	3.16	4.41	6.48	9.37

$\times 1000$ (L_2) $y = ax^2 + bx + c$

$$y = 41x^2 - 1.62x + 4.33$$

$$(3) \quad y = (2x^2 + 3x - 8)(x^2 - x - 4)$$

$$\begin{aligned} & 2x^4 - 2x^3 - 8x^2 + 3x^3 - 3x^2 - 12x \\ & - 8x^2 + 8x + 32 \end{aligned}$$

$$2x^4 + x^3 - 19x^2 - 4x + 32$$

WINDOW:

$$X_{\min} = -4$$

$$X_{\max} = 3$$

$$Y_{\min} = -30$$

$$Y_{\max} = 40$$

$$y_1 = 2x^4 + x^3 - 19x^2 - 4x + 32$$

$$1^{st} \text{ MIN } x = -2.35$$

$$y = -15.53$$

$$\text{MAX } x = -0.104$$

$$y = 32.21$$

$$2^{nd} \text{ MIN } x = 2.05$$

$$y = -12.11$$

④ $(3x^4 - 3x^3 - 6x - 8) \div (x-2)$

SYNTHETIC DIVISION

		x^4	x^3	x^2	x^1	x^0	$x-2=0$ $x=\underline{\underline{2}}$
<u>2</u>	3	-3	0	-6	-8		
		↓	6	6	12	12	
	<hr/>						
	3	3	6	6	④	REMAINDER	
	x^3	x^2	x	x^0			

$\frac{x^3}{x} = x^2$

$3x^3 + 3x^2 + 6x + 6 + \frac{4}{x-2}$

$$(5) \quad (1x^3 - 5x^2 - 20x - 32) \div (x - 8)$$

$$\begin{aligned} x - 8 &= 0 \\ x &= 8 \end{aligned}$$

$$\begin{array}{r} \underline{8} \overline{) \quad} \begin{array}{cccc} x^3 & x^2 & x & x^0 \\ 1 & -5 & -20 & -32 \\ & 8 & 24 & 32 \\ \hline & & & 0 \end{array} \end{array}$$

$$\frac{x^3}{x} = x^2$$

$$\begin{array}{ccc} 1 & 3 & 4 \\ x^2 & x & x^0 \end{array}$$

$$\boxed{x^2 + 3x + 4}$$

0 ← REMAINDER

$$(6) \quad x^3 - 11x^2 + 10x = 0$$

$$\underline{x} \underline{x} \underline{x} - 11 \underline{x} \underline{x} + 10 \underline{x} = 0$$

$$\underline{x} (x^2 - 11x + 10) = 0$$

$$x(x-1)(x-10) = 0$$

$$(-10)(-1) = 10$$

$$-10 + -1 = -11$$

$$x_1 = 0$$

$$x-1=0$$

$$+1 +1$$

$$x_2 = 1$$

$$x-10=0$$

$$+10 +10$$

$$x_3 = 10$$

7.

$$2x^3 - 2x^2 - 24x = 0$$

$$\underline{2} \underline{x} \underline{x} \underline{x} - \underline{2} \underline{x} \underline{x} - \underline{2} \cdot \underline{12} \underline{x} = 0$$

$$\underline{2} \underline{x} \left(x^2 - \underline{-1}x - \underline{12} \right) = 0$$

$$2x(x+3)(x-4) = 0$$

$$(-4)3 = \underline{-12}$$

$$-4 + 3 = \underline{-1}$$

$$\begin{array}{r} x+3=0 \\ -3 \quad -3 \end{array}$$

$$2x=0$$

$$\begin{array}{r} x-4=0 \\ +4 \quad +4 \end{array}$$

$$\underline{x_1 = -3}$$

$$\underline{x_2 = 0}$$

$$\underline{x_3 = 4}$$